WHAT IS CLAIMED IS:

1.   A method for searching for a match to a sequence of bits, comprising:

selecting a predetermined number of bits from a data stream;

applying a function to the selected bits; and

5   determining whether a pattern of bits resulting from the application of the function to the selected sequence of bits matches a predefined pattern.

2.   The method of claim 1, wherein the number of bits in the pattern of bits resulting from the application of the function to the selected bits is less than the number of selected bits.

10   3.   The method of claim 1, wherein the selected bits are contiguous.

4.   The method of claim 1, wherein the bits represent numbers.

5.   The method of claim 1, wherein the bits represent hexadecimal numbers.

6.   The method of claim 1, wherein the bits represent binary numbers.

7.   The method of claim 1, wherein the bits represent non-numeric

15   information.

8.   The method of claim 1, wherein the resulting pattern of bits matches the predefined pattern when the resulting pattern of bits is identical to the predefined pattern and the bits of the resulting pattern of bits are in the same order as the bits of the predefined pattern.

20   9.   The method of claim 1, further comprising comparing the resulting pattern of bits to a second predefined pattern to determine whether the resulting pattern of bits matches the second predefined pattern.

10.   The method of claim 1, further comprising identifying the resulting pattern of bits as a match when the resulting pattern of bits matches the predefined pattern.

11.   The method of claim 1, further comprising:

5   comparing the selected bits from the data stream to a second predefined pattern when the resulting pattern of bits matches the predefined pattern; and

          identifying the selected bits from the data stream as a match when the selected bits from the data stream match the second predefined pattern.

12.   The method of claim 1, wherein the function is a message digest function.

10   13.   A method for creating a strand sub-table, comprising storing the result of a function performed on a predetermined string of bits to be matched.

14.   The method of claim 13, further comprising:

          finding a result of the function when performed on a second sequence of bits; and

15   comparing the stored result of the function performed on the predetermined sequence of bits to be matched to the result of the function when performed on the second sequence of bits.

15.   An article of manufacture, comprising:

          a computer readable medium having stored thereon instructions which,

20   when executed by a processor, cause the processor to:

               select a predetermined number of bits from a data stream;

               apply a function to a value represented by the selected bits; and

               determine whether the value resulting from the application of the function to the selected bits matches a predetermined value.

25   16.   The article of manufacture of claim 15, wherein the computer readable medium further includes instructions which, when executed by the processor, cause the processor to compare the resulting value to a second predetermined

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value to determine whether the resulting value matches the second predetermined value.

17.   The article of manufacture of claim 15, wherein the selected bits are contiguous.

5   18.   The article of manufacture of claim 15, wherein the resulting value matches the predefined value when the bits of the resulting value are identical to the bits of the predefined value and the bits of the resulting value are in the same order as the bits of the predefined pattern.

19.   A computer, comprising:

10   a communication adaptor coupled to a network of remote nodes to receive a data stream from at least one of the remote nodes; and

            a processor coupled to the communication adaptor to:

                  select a predetermined number of bits from the data stream;

                  apply a function to the selected bits; and

15   determine whether a pattern of bits resulting from the application of the function to the selected bits matches a predefined pattern of bits.

20.   The computer of claim 19, wherein the processor is further to compare the resulting pattern of bits to a second predefined pattern of bits to determine whether the resulting pattern of bits matches the second predefined pattern of

20   bits.

21.   The computer of claim 19, wherein the selected bits are contiguous.

22.   The computer of claim 19, wherein the function is a message digest function.

23.   The computer of claim 19, wherein the resulting pattern of bits matches

25   the predefined pattern of bits when the bits of the resulting pattern are identical to

the bits of the predefined pattern of bits and the bits of the resulting pattern of bits are in the same order as the bits of the predefined pattern of bits.

24. A node, comprising a processor to:

select a predetermined number of bits from the data stream;

5   apply a function to the selected bits; and

determine whether a pattern of bits resulting from the application of the function to the selected bits matches a predefined pattern of bits.

25. The node of claim 24, wherein the processor is further to compare the resulting pattern of bits to a second predefined pattern of bits to determine

10   whether the resulting pattern of bits matches the second predefined pattern of bits.

26. The node of claim 24, wherein the selected bits are contiguous.

27. The node of claim 24, wherein the function applied to the selected bits is a message digest function.

15   28. The node of claim 24, wherein the resulting pattern of bits matches the predefined pattern of bits when the bits of the resulting pattern of bits are identical to the bits of the predefined pattern of bits and the bits of the resulting pattern of bits are in the same order as the bits of the predefined pattern of bits.